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SEQUENCE LISTING

<110> Sai L. Su <120> METHODS FOR THE DIAGNOSIS AND TREATMENT OF METASTATIC PROSTATE TUMORS <130> 20093-001000US <140> <141> <150> PCT/US99/08079 <151> 1999-04-13 <160> 16 <170> PatentIn Ver. 2.0 <210> 1 <211> 4450 <212> DNA <213> Homo sapiens <220> <221> CDS <222> (22)..(3915) <400> 1 acccacgogo agoggoogga g atg cag cgg ggc gcc gcg ctg tgc ctg cga Met Gln Arg Gly Ala Ala Leu Cys Leu Arg ctg tgg ctc tgc ctg gga ctc ctg gac ggc ctg gtg agt gac tac tcc 99 Leu Trp Leu Cys Leu Gly Leu Leu Asp Gly Leu Val Ser Asp Tyr Ser 15 atg acc ccc ccg acc ttg aac atc acg gag gag tca cac gtc atc gac 147 Met Thr Pro Pro Thr Leu Asn Ile Thr Glu Glu Ser His Val Ile Asp 30 35 acc ggt gac agc ctg tcc atc tcc tgc agg gga cag cac ccc ctc gag 195 Thr Gly Asp Ser Leu Ser Ile Ser Cys Arg Gly Gln His Pro Leu Glu 45 50 tgg gct tgg cca gga gct cag gag gcg cca gcc acc gga gac aag gac 243 Trp Ala Trp Pro Gly Ala Gln Glu Ala Pro Ala Thr Gly Asp Lys Asp 60 65 age gag gae acg ggg gtg gtg cga gae tge gag gge aca gae gee agg 291 Ser Glu Asp Thr Gly Val Val Arg Asp Cys Glu Gly Thr Asp Ala Arg 75 80 ccc tac tgc aag gtg ttg ctg ctg cac gag gta cat gcc aac gac aca Pro Tyr Cys Lys Val Leu Leu His Glu Val His Ala Asn Asp Thr 95 100

	•																	
	•	١,																
•												aag Lys						387
												aga Arg						435
		he										aac Asn						483
	T											ctc Leu 165						531
												cag Gln						579
												ctg Leu						627
												cag Gln						675
		ro										ctc Leu						723
	L											ggg Gly 245						771
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												aag Lys						867
												agc Ser						915
		sn										gtg Val						963
	G											gtc Val 325						1011
	c	cc	ttc	atc	agc	gtc	gag	tgg	ctc	aaa	gga	ccc	atc	ctg	gag	gcc	acg	1059

Pro Phe Ile Ser Val Glu Trp Leu Lys Gly Pro Ile Leu Glu Ala Thr gca gga gac gag ctg gtg aag ctg ccc gtg aag ctg gca gcg tac ccc Ala Gly Asp Glu Leu Val Lys Leu Pro Val Lys Leu Ala Ala Tyr Pro ccg ccc gag ttc cag tgg tac aag gat gga aag gca ctg tcc ggg cgc Pro Pro Glu Phe Gln Trp Tyr Lys Asp Gly Lys Ala Leu Ser Gly Arg cac agt cca cat gcc ctg gtg ctc aag gag gtg aca gag gcc agc aca His Ser Pro His Ala Leu Val Leu Lys Glu Val Thr Glu Ala Ser Thr gge ace tae ace etc gee etg tgg aac tee get get gge etg agg ege Gly Thr Tyr Thr Leu Ala Leu Trp Asn Ser Ala Ala Gly Leu Arg Arg aac atc agc ctg gag ctg gtg gtg aat gtg ccc ccc cag ata cat gag Asn Ile Ser Leu Glu Leu Val Val Asn Val Pro Pro Gln Ile His Glu aaq qaq qcc tcc tcc ccc agc atc tac tcg cgt cac agc cgc cag gcc Lys Glu Ala Ser Ser Pro Ser Ile Tyr Ser Arg His Ser Arg Gln Ala ctc acc tgc acg gcc tac ggg gtg ccc ctg cct ctc agc atc cag tgg Leu Thr Cys Thr Ala Tyr Gly Val Pro Leu Pro Leu Ser Ile Gln Trp cac tgg cgg ccc tgg aca ccc tgc aag atg ttt gcc cag cgt agt ctc His Trp Arg Pro Trp Thr Pro Cys Lys Met Phe Ala Gln Arg Ser Leu cgg cgg cag cag caa gac ctc atg cca cag tgc cgt gac tgg agg Arg Arg Gln Gln Gln Asp Leu Met Pro Gln Cys Arg Asp Trp Arg gcg gtg acc acg cag gat gcc gtg aac ccc atc gag agc ctg gac acc Ala Val Thr Thr Gln Asp Ala Val Asn Pro Ile Glu Ser Leu Asp Thr tgg acc gag ttt gtg gag gga aag aat aag act gtg agc aag ctg gtg Trp Thr Glu Phe Val Glu Gly Lys Asn Lys Thr Val Ser Lys Leu Val ate cag aat gee aac gtg tet gee atg tac aag tgt gtg gte tee aac Ile Gln Asn Ala Asn Val Ser Ala Met Tyr Lys Cys Val Val Ser Asn aag gtg ggc cag gat gag cgg ctc atc tac ttc tat gtg acc acc atc Lys Val Gly Gln Asp Glu Arg Leu Ile Tyr Phe Tyr Val Thr Thr Ile ccc gac ggc ttc acc atc gaa tcc aag cca tcc gag gag cta cta gag Pro Asp Gly Phe Thr Ile Glu Ser Lys Pro Ser Glu Glu Leu Leu Glu

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	cgc ctc aac ctg tcc Arg Leu Asn Leu Ser 595		
	ctc gac tgc aag aac Leu Asp Cys Lys Asn 610		
	ctg gag gag gtg gca Leu Glu Glu Val Ala 625		
	atc ccc cgc gtc gcg Ile Pro Arg Val Ala 640		
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	ctg gtg aac gtg agc Leu Val Asn Val Ser 690		
	gcg cac gcg ccc agc Ala His Ala Pro Ser 705		
	gaa aag tct gga gtc Glu Lys Ser Gly Val 720		
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ctg tgc agc gtg tgc Leu Cys Ser Val Cys 750	aga ccc aag ggc tgc Arg Pro Lys Gly Cys 755	gtc aac tcc tcc gcc Val Asn Ser Ser Ala 760	agc 2307 Ser
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1.4.6

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		gaa Glu														2547			
		ctg Leu 845														2595			
		gaa Glu														2643			
	Val	gcc Ala														2691			
		ctg Leu														2739			
		gtg Val														2787			
		gtg Val 925														2835			
		gcc Ala														2883			
	Gln	cgc Arg														2931	•		
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Lys	Thr	gag Glu	Gly 990	Ğly	Ala	Arg	Arg	Ala 995	Ser	Pro	Asp	Gln	Glu 1000	Ala	Glu	3027		•	
	Leu	tgg Trp 1005				Leu					Leu					3075			 •
								٠		٠									

	ttc'cag Phe Gln 1020					et Glu			Ala						3123		
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	gtg aag Val Lys		Cys 2				Ala					Lys			3219		
	gac tac Asp Tyr	Val				er Ala					Lys				3267		
	cct gaa Pro Glu						Tyr			Gln					3315		
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	tac cct Tyr Pro 1115			Gln I				Phe					Arg		3411		
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	atc atg Ile Met	Leu				er Gly					Arg				3507		
	tcg gac Ser Asp 1						Āsp			Gln					3555		
·	caa gag Gln Glu 1180					s Met			Arg						3603		
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	cag gct Gln Ala		Ala				Pro					His			3699		
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Gly Ala Glu Thr Arg Gly Ser Ser Arg Met Lys Thr Phe Glu Glu Phe 1245 1250 ccc atg acc cca acg acc tac aaa ggc tct gtg gac aac cag aca gac 3843 Pro Met Thr Pro Thr Thr Tyr Lys Gly Ser Val Asp Asn Gln Thr Asp 1265 1270 agt ggg atg gtg ctg gcc tcg gag gag ttt gag cag ata gag agc agg 3891 Ser Gly Met Val Leu Ala Ser Glu Glu Phe Glu Gln Ile Glu Ser Arg 1280 1285 cat aga caa gaa agc ggc ttc agg tagctgaagc agagagagag aaggcagcat His Arg Gln Glu Ser Gly Phe Arg 1295 acgtcagcat tttcttctct gcacttataa gaaagatcaa agactttaag actttcgcta 4005 tttcttctac tgctatctac tacaaacttc aaagaggaac caggaggaca agaggagcat 4065 gaaagtggac aaggagtgtg accactgaag caccacaggg aggggttagg cctccqqatq 4125 actgcgggca ggcctggata atatccagcc tcccacaaga agctggtgga gcagagtgtt 4185 ccctgactcc tccaaggaaa gggagacgcc ctttcatggt ctgctgagta acaggtqcct 4245 teccagacae tggegttaet gettgaceaa agageeetea ageggeeett atgeeagegt 4305 gacagagggc teacetettg cettetaggt caetteteac aatgteeett cageacetga 4365 ccctgtgccc gccgattatt ccttggtaat atgagtaata catcaaagag tagtattaaa 4425 agctaattaa tcatgtttat aaaaa 4450 <210> 2 <211> 1298 <212> PRT <213> Homo sapiens <400> 2 Met Gln Arg Gly Ala Ala Leu Cys Leu Arg Leu Trp Leu Cys Leu Gly Leu Leu Asp Gly Leu Val Ser Asp Tyr Ser Met Thr Pro Pro Thr Leu 25 Asn Ile Thr Glu Glu Ser His Val Ile Asp Thr Gly Asp Ser Leu Ser 35 Ile Ser Cys Arg Gly Gln His Pro Leu Glu Trp Ala Trp Pro Gly Ala 55

Gln Glu Ala Pro Ala Thr Gly Asp Lys Asp Ser Glu Asp Thr Gly Val

Val Arg Asp Cys Glu Gly Thr Asp Ala Arg Pro Tyr Cys Lys Val Leu

Leu Leu His Glu Val His Ala Asn Asp Thr Gly Ser Tyr Val Cys Tyr 100 105 110

Tyr Lys Tyr Ile Lys Ala Arg Ile Glu Gly Thr Thr Ala Ala Ser Ser 115 120 125

Tyr Val Phe Val Arg Asp Phe Glu Gln Pro Phe Ile Asn Lys Pro Asp 130 135 140

Thr Leu Leu Val Asn Arg Lys Asp Ala Met Trp Val Pro Cys Leu Val 145 150 155 160

Ser Ile Pro Gly Leu Asn Val Thr Leu Arg Ser Gln Ser Ser Val Leu 165 170 175

Trp Pro Asp Gly Gln Glu Val Val Trp Asp Asp Arg Arg Gly Met Leu . 180 185 190

Val Ser Thr Pro Leu Leu His Asp Ala Leu Tyr Leu Gln Cys Glu Thr 195 200 205

Thr Trp Gly Asp Gln Asp Phe Leu Ser Asn Pro Phe Leu Val His Ile 210 215 220

Thr Gly Asn Glu Leu Tyr Asp Ile Gln Leu Leu Pro Arg Lys Ser Leu 225 230 235 240

Glu Leu Leu Val Gly Glu Lys Leu Val Leu Asn Cys Thr Val Trp Ala 245 250 255

Glu Phe Asn Ser Gly Val Thr Phe Asp Trp Asp Tyr Pro Gly Lys Gln 260 265 270

Ala Glu Arg Gly Lys Trp Val Pro Glu Arg Arg Ser Gln Gln Thr His 275 280 285

Thr Glu Leu Ser Ser Ile Leu Thr Ile His Asn Val Ser Gln His Asp 290 295 300

Leu Gly Ser Tyr Val Cys Lys Ala Asn Asn Gly Ile Gln Arg Phe Arg 305 310 315 320

Glu Ser Thr Glu Val Ile Val His Glu Asn Pro Phe Ile Ser Val Glu
325 330 335

Trp Leu Lys Gly Pro Ile Leu Glu Ala Thr Ala Gly Asp Glu Leu Val 340 345 350

Lys Leu Pro Val Lys Leu Ala Ala Tyr Pro Pro Pro Glu Phe Gln Trp 355 360 365

Tyr Lys Asp Gly Lys Ala Leu Ser Gly Arg His Ser Pro His Ala Leu 370 375 380

Val Leu Lys Glu Val Thr Glu Ala Ser Thr Gly Thr Tyr Thr Leu Ala 385 390 395 400

Leu Trp Asn Ser Ala Ala Gly Leu Arg Arg Asn Ile Ser Leu Glu Leu Val Val Asn Val Pro Pro Gln Ile His Glu Lys Glu Ala Ser Ser Pro 425 Ser Ile Tyr Ser Arg His Ser Arg Gln Ala Leu Thr Cys Thr Ala Tyr Gly Val Pro Leu Pro Leu Ser Ile Gln Trp His Trp Arg Pro Trp Thr 455 Pro Cys Lys Met Phe Ala Gln Arg Ser Leu Arg Arg Arg Gln Gln Gln 475 Asp Leu Met Pro Gln Cys Arg Asp Trp Arg Ala Val Thr Thr Gln Asp Ala Val Asn Pro Ile Glu Ser Leu Asp Thr Trp Thr Glu Phe Val Glu 505 Gly Lys Asn Lys Thr Val Ser Lys Leu Val Ile Gln Asn Ala Asn Val Ser Ala Met Tyr Lys Cys Val Val Ser Asn Lys Val Gly Gln Asp Glu 535 Arg Leu Ile Tyr Phe Tyr Val Thr Thr Ile Pro Asp Gly Phe Thr Ile 555 Glu Ser Lys Pro Ser Glu Glu Leu Leu Glu Gly Gln Pro Val Leu Leu 570 Ser Cys Gln Ala Asp Ser Tyr Lys Tyr Glu His Leu Arg Trp Tyr Arg Leu Asn Leu Ser Thr Leu His Asp Ala His Gly Asn Pro Leu Leu Leu 600 Asp Cys Lys Asn Val His Leu Phe Ala Thr Pro Leu Ala Ala Ser Leu 615 Glu Glu Val Ala Pro Gly Ala Arg His Ala Thr Leu Ser Leu Ser Ile 635 Pro Arg Val Ala Pro Glu His Glu Gly His Tyr Val Cys Glu Val Gln Asp Arg Arg Ser His Asp Lys His Cys His Lys Lys Tyr Leu Ser Val Gln Ala Leu Glu Ala Pro Arg Leu Thr Gln Asn Leu Thr Asp Leu Leu Val Asn Val Ser Asp Ser Leu Glu Met Gln Cys Leu Val Ala Gly Ala 695

His Ala Pro Ser Ile Val Trp Tyr Lys Asp Glu Arg Leu Leu Glu Glu 715 Lys Ser Gly Val Asp Leu Ala Asp Ser Asn Gln Lys Leu Ser Ile Gln 730 Arg Val Arg Glu Glu Asp Ala Gly Pro Tyr Leu Cys Ser Val Cys Arg Pro Lys Gly Cys Val Asn Ser Ser Ala Ser Val Ala Val Glu Gly Ser Glu Asp Lys Gly Ser Met Glu Ile Val Ile Leu Val Gly Thr Gly Val Ile Ala Val Phe Phe Trp Val Leu Leu Leu Ile Phe Cys Asn Met 795 Arg Arg Pro Ala His Ala Asp Ile Lys Thr Gly Tyr Leu Ser Ile Ile Met Asp Pro Gly Glu Val Pro Leu Glu Glu Gln Cys Glu Tyr Leu Ser 825 Tyr Asp Ala Ser Gln Trp Glu Phe Pro Arg Glu Arg Leu His Leu Gly 840 Arg Val Leu Gly Tyr Gly Ala Phe Gly Lys Val Val Glu Ala Ser Ala 855 Phe Gly Ile His Lys Gly Ser Ser Cys Asp Thr Val Ala Val Lys Met 870 875 Leu Lys Glu Gly Ala Thr Ala Ser Glu Gln Arg Ala Leu Met Ser Glu 885 890 Leu Lys Ile Leu Ile His Ile Gly Asn His Leu Asn Val Val Asn Leu 905 Leu Gly Ala Cys Thr Lys Pro Gln Gly Pro Leu Met Val Ile Val Glu Phe Cys Lys Tyr Gly Asn Leu Ser Asn Phe Leu Arg Ala Lys Arg Asp 935 Ala Phe Ser Pro Cys Ala Glu Lys Ser Pro Glu Gln Arg Gly Arg Phe 955 Arg Ala Met Val Glu Leu Ala Arg Leu Asp Arg Arg Pro Gly Ser 970 Ser Asp Arg Val Leu Phe Ala Arg Phe Ser Lys Thr Glu Gly Gly Ala 980 985 Arg Arg Ala Ser Pro Asp Gln Glu Ala Glu Asp Leu Trp Leu Ser Pro 1000

Leu Thr Met Glu Asp Leu Val Cys Tyr Ser Phe Gln Val Ala Arg Gly 1010 1020

Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala Ala 025 1030 1035 1040

Arg Asn Ile Leu Leu Ser Glu Ser Asp Val Val Lys Ile Cys Asp Phe 1045 1050 1055

Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro Asp Tyr Val Arg Lys Gly
1060 1065 1070

Ser Ala Arg Leu Pro Leu Lys Trp Met Ala Pro Glu Ser Ile Phe Asp 1075 1080 1085

Lys Val Tyr Thr Gln Ser Asp Val Trp Ser Phe Gly Val Leu Leu 1090 1095 1100

Trp Glu Ile Phe Ser Leu Gly Ala Ser Pro Tyr Pro Gly Val Gln Ile 105 1110 1115 1120

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Pro Glu Leu Ala Thr Pro Ala Ile Arg His Ile Met Leu Asn Cys Trp 1140 1145 1150

Ser Gly Asp Pro Lys Ala Arg Pro Ala Phe Ser Asp Leu Val Glu Ile 1155 1160 1165

Leu Gly Asp Leu Leu Gln Gly Arg Gly Leu Gln Glu Glu Glu Val 1170 1175 1180

Cys Met Ala Pro Arg Ser Ser Gln Ser Ser Glu Glu Gly Ser Phe Ser 185 1190 1195 1200

Gln Val Ser Thr Met Ala Leu His Ile Ala Gln Ala Asp Ala Glu Asp 1205 1210 1215

Ser Pro Pro Ser Leu Gln Arg His Ser Leu Ala Ala Arg Tyr Tyr Asn 1220 1225 1230

Trp Val Ser Phe Pro Gly Cys Leu Ala Arg Gly Ala Glu Thr Arg Gly 1235 1240 1245

Ser Ser Arg Met Lys Thr Phe Glu Glu Phe Pro Met Thr Pro Thr Thr 1250 1260

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Phe Arg

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